

Claims

1. A highly efficient fluorescent material from the class of the silicide nitrides having a cation and the basic formula $A_xSi_yN_z$, characterized in that Sr is used as cation, the silicide nitride being doped with trivalent Ce which acts as activator.
2. The fluorescent material as claimed in claim 1, characterized in that the fluorescent material is $Sr_3Si_2N_8:Ce^{3+}$ or $SrSi_3N_8:Ce^{3+}$.
3. The fluorescent material as claimed in claim 1, characterized in that the proportion of the Ce amounts to between 1 and 10 mol% of the Sr.
4. The fluorescent material as claimed in claim 1, characterized in that part of the Sr, in particular up to 30 mol%, is replaced by Ba and/or Ca.
5. A light source having a primary radiation source, which emits radiation in the shortwave region of the optical spectral region. in the wavelength region of 370 to 430 nm, this radiation being converted wholly or partially into secondary radiation of longer wavelength in the visible material as claimed in one of the preceding claims.
6. The light source as claimed in claim 5, characterized in that a light-emitting diode based on InGaN is used as primary radiation source.
7. The light source as claimed in claim 5, characterized in that a portion of the primary radiation continues to be converted into radiation of longer wavelength by means of a second

fluorescent material, the first and second fluorescent materials being, in particular, suitably selected and mixed in order to generate white light.

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8. The light source as claimed in claim 7, characterized in that a portion of the primary radiation continues to be converted into radiation of longer wavelength by means of a third fluorescent material, this third fluorescent material emitting in the red spectral region.

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